TUNNELED DATAGRAM SWITCHING

ABSTRACT OF THE DISCLOSURE

5   A method for transporting real-time data such as voice over a packet-based

infrastructure, and a switch for use with that method, are disclosed. In this method,

datagrams from multiple data streams are packaged in a single tunnel packet for

transport across a network to an intermediate switching point (switch). To reduce

bandwidth, each datagram in the tunnel packet (e.g., tunneled datagram) can be sent in

10   a compressed-header format identified by a context identifier (CID) for its data

stream. The switch saves context state for each tunnel and CID it is receiving packets

for. The switch deaggregates received tunnel packets into tunneled datagrams and

associates each datagram with its context state. Based on the destination indicated in

its context state, each datagram it re-aggregated in an outgoing tunnel packet bound

15   for a next switch or the destination endpoint itself.

This switching technique reduces effective per-call bandwidth and simplifies

per-call switching requirements across a network fabric. By concentrating switching

in relatively few tunnel switches, the network scales well, does not require special

processing by the underlying network, and can utilize the dynamic routing capabilities

20   of the underlying network fabric.